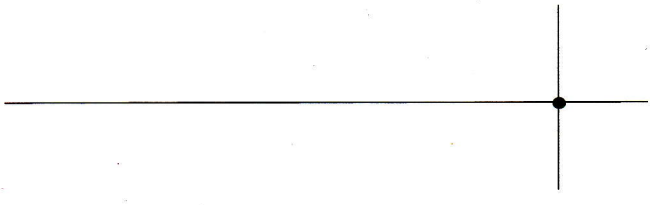
User's manual

DVB-T DIGITAL TV RECEIVER



ONTENTS

1. Iintroduction----1
1.1Precautions----1
1.2Main function----1
1.3.1Layout of the main unit----2
1.3.2Layout of the remote control----3
2. Installation----4
2.1 Connections----4
2.2 Replacing the Remote Control Battery----4
2.3 Accessories Included----5
3. Installation Wizard----5
4. Basic Operation----5
4.1Switch Channel----5
4.2Volume Control----5
4.3Program Information----6
4.4Channel List----6
4.5Text service----7
5. EPG----7
5.1Browse Program Information----7
6.System----8
6.1Parent control----8
6.2System Information----8
7.Channel management----8
7.1 Edit TV channels----8
7.2 Edit radio channels----9
7.3 Add TV Favorites----9
8.Installation----9
8.1Automatic Search----9
8.2Manual Search----10
8.3Default setting----10
9. Program record----10
10. Time shift----11
11.Trouble shooting----12
12.Technical specification----12

1. Introduction

1.1 Precautions

Install correctly, your new equipment will provide you with years of enjoyable and safe usage.
Installing this unit requires technical expertise. This unit should be installed by a qualified technician or service personnel. If you try to install this unit by yourself, do it properly, referring to the installation and wiring diagram
ms in this operating manual. Improper installation may result in fire or electric shock.

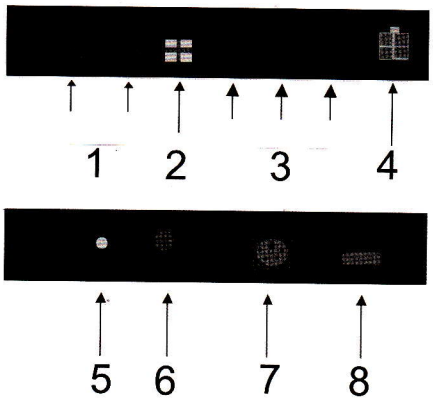
1.Do not operate this equipment while driving-safe driving should always be your highest priority.
2.Do not install components in areas which are susceptible to rain, moisture direct sunlight, extremely heat or cold, excessive dust, dirt or humidity.
3. Immediately unplug the power cord and send the monitor to your local dealer or service center as soon as possible:
a) If there is sm ENTERe or any peculiar odor present during used
b) If there is damage to any of the internal components
4. To avoid damage to the unit and risk of electronic shock, do not permit any of this equipment to become damp or wet from water or liquid. If this does occur, immediately unplug the power cord and send the unitr to your local dealer or service center as soon as possible.
5. Do not attempt to repair, open or disassemble any of the components. Dangerous high voltages are present which may result in electric shock.
6. Use only a power source with DC12~24 volts car battery (negative ground).
7. Do not place or suspend objects on the power cord, as this may damage the cord.
8. Do not twist or place the power cord near any source of heat in the vehicle.
10. Avoid dropping any metal objects or inflammable items into the unit ventilation slots.
11. After the unit is installed, do not arbitrarily pull it down or strike it. This may loose the mounting screws and cause it fall down.
12. Do not install your monitor where:
a) it will obstruct the driver's view.
b) it will obstruct the operation of the airbag system.
c) it will obstruct the operation of the vehicle, especially the steering wheel, shift lever, or brake pedal.
d) a diver or passengers may injure themselves when getting into or out of the car.
13. Do not damage any pipes, tubes, the fuel tank or electric wiring when installing this unit. this can cause a fire. if you drill a hole in car panels, make sure that any hidden car parts will not be damaged.
14. do not use any nuts or bolts for safety devices such as steering linkage, fuel supply or braking systems. this can cause a fire or an accident .take care to prevent cords and wires from getting tangled or crimped in the moving portion of a seat rail.

1.2 Main function

- Special design for car using, support high speed above 160km/hours
- Video decoder MPEG-4/H.264/AVC
- Audio decoder MPEG/AAC/ PCM
- DVB subtitling ETSI 300473 compliant and OSD teletext
- Logic channel number
- Easy first installation
- Supports multiple OSD languages menu
- EPG (Electronic Program Guide) with now and next and 7 days events
- Channel search with automatic/manual scan
- Various channel editing function (favorite,move,lock,delete)
- Software upgrade through RS232/USB
- USB 2.0 support PVR，JPG/BMP/GIF picture，MP3
- Standby consumption < 1W
- CVBS video and L/R audio output

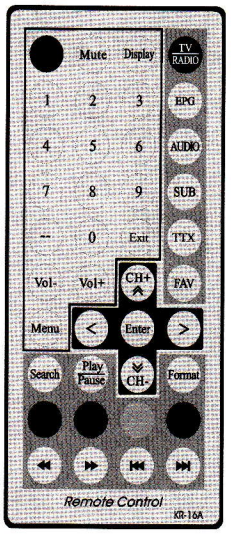
1.3Introduction

1.3.1 Layout Of The Main Unit



1.Twin Antenna Input (SMA connector)
2. Ext. Remote Sensor
3. AV Output
 a) Video Output (Yellow RCA)
 b) Right Audio Output (Red RCA)
 c) Left Audio Output (White RCA)
4. Power Input DC12~24 Volts
5. Power LED
6. Remote Sensor
7. AV Output
8.USB Connector

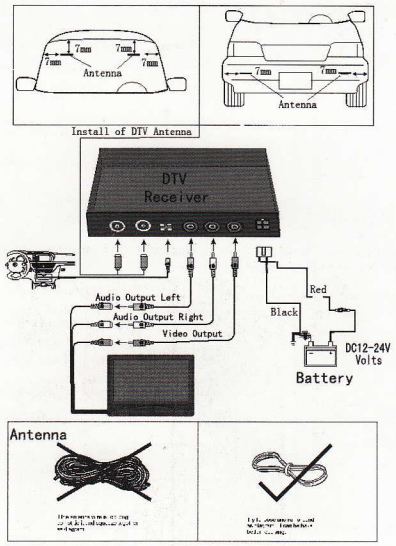
1.3.2 Layout of The Remote Control



Power	Press to turn on/off the DTV
Mute	Select sound or remove sound
Enter	Confirm the selection
Display	Displays current channel/program information
TV/RADIO	Switch between TV and Radio modes
0-9	Input channel number
SUB	Change the subtitle language
EPG	Display the Electronic Program Guide
AUDIO	To change audio language
TTX	Display teletext features
FAV	add or remove TV channels from one of the four favorite channel lists
Exit	Menu exit and OSD clear
VOL+/-	Volume adjust and left/right in the menu
Menu	Display the main Menu
CH+/-	Change the channel one by one and up/down in the menu
< >	Menu select
Search	Scan program
Play/Pause	Press to turn on/off the Time shift
Fomat	To select usb mp3 play
YELLOW KEY	Press to turn on/off the recording

2. Installation

2.1 Connections



2.2 Replacing the Remote Control Battery

1)Always use new battery when replace the old set

2)Do not attempt to charge, short-circuit, disassemble, heat or burn used batteries, battery may be explode if mistreated.

3)Battery replacement is necessary when remote control acts sporadically or stops operating.

4)Do not drop, apply shock or step on the remote control.

5)Do not spill water on the remote control.

6)Do not place objects between the remote control and remote sensor.

7)Do not use remote control for the other equipments at the same time.

8)Do not leave the remote near any heat sources, or in a place subject to direct sunlight(especially on the dashboard).

9) Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.

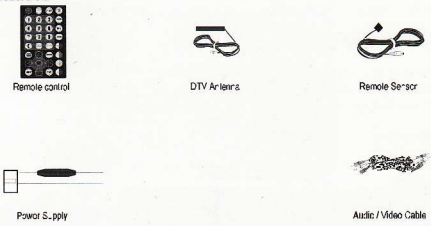
10)If the REMOTE does not operate even when you operate the remote control from a close range, it is time to replace the battery, refer ring to the label on the back of the basic control. Use any of other may be a risk of fire or explosion.

11)Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.

12)Wipe the battery with dry cloth to assure a good contact.

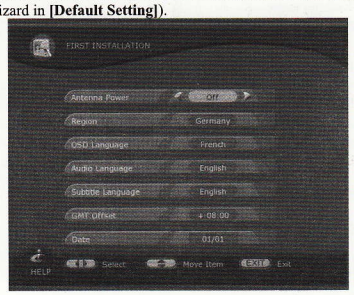
13)Under normal conditions, batteries will last approximately 1 year. The service life may be shorter,depending on the conditions of use.

2.3 Accessories Included



3. Installation Wizard

When powering on you receiver for the first time ,the installation wizard is automatically started (You can enable the Installation Wizard in **[Default Setting]**).



It recommends you to finish the Installation Wizard. If you exit the Installation Wizard without fully completing the setting procedures, you maybe can't watch all TV or radio programs. In this case, you can use the Installation Menu to configure your receiver as you like.

4. Basic Operation

This chapter describes the basic functions such as switching channel, volume control when watching TV.

4.1 Switch Channel

The channel can be changed through one of the following methods.

(1) Press the ▲/▼ keys to move to the numerical prior or next channel.

(2) Input the desired channel number using the numerical keys (0-9) to move to the channel directly.

(3) Press the "**TV/Radio**" key to switch between TV channel and Radio channel.

(4) You can also switch channel using Electronic Program Guide or Channel List.

4.2 Volume Control

(1) Press the ◀/▶ keys to decrease/increase the audio volume.

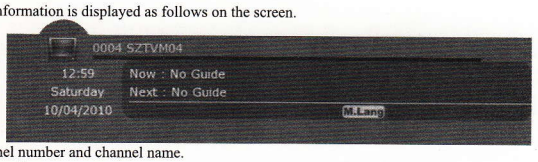
(2) Press the **"MUTE"** key to pause the sound of your program temporarily, and then you can set the program to formal status by press **"MUTE"** key again or press the ◀/▶ keys.

4.3 Program Information

Program information is always displayed for a specific period of time whenever you switch channels. You can view the detail program information by pressing the **"INFO"** key while watching a program, and then press the **"EXIT"** key to hide it.

(1) General Information

General Information is displayed as follows on the screen.



(1) Channel number and channel name.
(2) Progress bar.
(3) Icons

	Displayed only when the channel is locked.
	Displayed only when the channel is in one of the FAV list.
LANG	Displayed when multi audio languages is available in this program..
TTX	Displayed only when there is teletext in this program.
SUB	Displayed only when subtitle information is available.

(4) Now: Current program name, program begin time and end time.
(5) Next: Next program name, program begin time and end time.
(6) Current time.

(2) Detail Program Information

You can see detail information about the current channel by pressing the **"INFO"** key.
Note:
• Press the **"EXIT"** key to hide the information box.

4.4 Channel List

Three types of channel lists are provided for easy and quick channel switch. TV list and RADIO list are list of TV and radio channels.

(1) Press **"OK"** key to display the TV list, and then you can press ◀/▶ keys to switch to RADIO list and FAV lists, or you can press **"FAV"** key to display FAV lists directly.
(2) Select your desired channel using the ▲/▼ keys and press the **"OK"** key to change the channel.

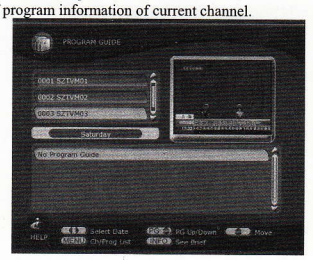
4.5 Text service

If your chosen channel has teletext feature, you can access it. Teletext service often is loaded automatically shortly after the Digital Teletext window is displayed.
(1) Press **TEXT** key to access teletext features.
(2) Press **EXIT** key again to return to normal viewing.

5. EPG

The Electronic Program Guide (EPG) displays program information about each channel, based on the date and time. You can also schedule your watching using the information given. There are three elements on the screen.

- **Video window:** Display current channel program.
- **Channel list:** Press ▲/▼ keys to switch to prior/next channel. Press **"TV / RADIO"** key to switch between **[TV List]** and **[Radio List]**.
- **Program list:** A list of program information of current channel.



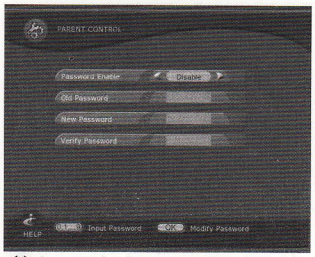
5.1 Browse Program Information

- If the focus are not on the channel list, press "EPG " key;
- Press ◀/▶ keys to select a day from Monday to Sunday. It will be displayed at the top of the program list.
- Press " **EPG** " key to set the focus on program list, and then press ▲/▼ keys browse the program information.

6. System

6.1 Parent Control

If password is enabled, **[Parent Control]** can prevent children from watching some channels which are locked. Of course it will restrict them to access some system setting menus only if they know the right password.



- **Password Enable:** Use ◀/▶ keys to select between Enable and Disable.
- **Old Password:** If you want to change the password, you have to enter the old password first. Press ▲/▼ keys to set the focus on **[Old Password]**, then input four number using numeric keys (0-9) on the remote control. If this is finished, the focus will switch to **[New Password]** automatically.
- **New Password:** Enter a four-number new password.
- **Verify Password:** Input the new password again for confirmation.

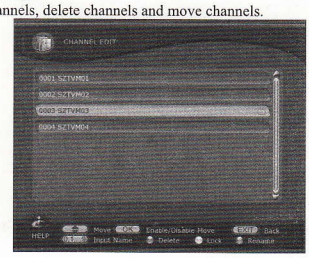
6.2 System Information

From here, you can get information about the receiver, such as hardware version, software version, release date, loader version and driver version.

7. Channel Management

7.1 Edit TV Channels

From here, you can lock channels, delete channels and move channels.



- **Lock**
  Select the channel that you want to lock and then press "**Red**" key. The selected channel will be marked with a lock symbol. If you want to unlock the channel, press "**Red**" key again.

Note:
To view a locked channel, you have to input the password. The default password is 0000. More information about password, please refer to section 7.2.

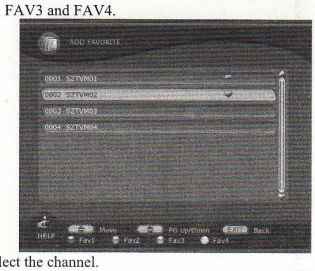
- **Delete**
  This operation allows you to delete one or more unwanted programs. Press ▲/▼/**PAGE-**/**PAGE+** keys to select a program. Press "**Green**" key to delete it.
- **Rename**
  (1) Select the channel that you want to lock and then press "**Blue**" key, you can rename the channel name.

7.2 Edit Radio Channels

Please refer to section 8.1 Edit TV Channels.

7.3 Add TV Favorites

From here, you can add TV channels to or remove TV channels from one of the four favorite channel lists labeled with FAV1, FAV2, FAV3 and FAV4.



(1) Press ▲/▼/ keys to select the channel.
(2) Press "**Red/Green/Yellow/Blue**" keys to add to or remove from list FAV1, FAV2, FAV3 and FAV4 respectively. For instance, if a channel is added to list FAV1, it will be marked with the symbol ♥.It is similar to other FAV list.

Note:
• One channel can be added to several lists.
•The FAV list can be displayed by pressing the "**Red**" key when you are watching TV.

8. Installation

This chapter describes how to search for channels and a series of procedures.

8.1 Automatic Search

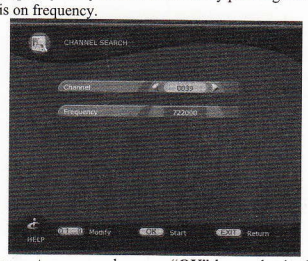
Press "**MENU**" key, and then select **[Installation]**, **[Automatic Search]**, you will see Automatic Search interface as follows. Here, you don't need to enter any other information than press "**OK**" key, and then it will automatically search all the channels.

(1) Press "**OK**" key to begin the auto search procedure. If there are already some channels, the receiver will ask if or not to carry out the procedure.
(2) Press "**OK**" key to stop the procedure at any time if you want to.

8.2 Manual Search

You can search single channel manually by searching parameters, if you know the channel information.

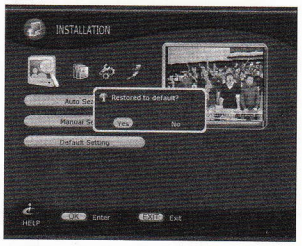
- **Channel Number**
  Press ◀/▶ key to move to your desired channel, and the corresponding channel frequency, signal strength and signal quality will be change automatically.
- **Frequency**
  You can also enter the frequency that you want to search by pressing numeric keys (0-9) on the remote control when the focus is on frequency.



If you think all the above parameters are ready, press "**OK**" key to begin the manual search procedure. When finished, the result will be displayed.

8.3 Default Setting

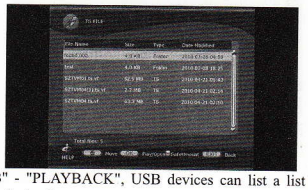
Default Setting restores the receiver to the factory default settings. After Default Setting is carried out and exit the main menu, the **Installation Wizard** will be automatically run..
Warning: Please note that once you perform Default Setting, all data such as Channel information and user configured data are deleted.



9 .Program record

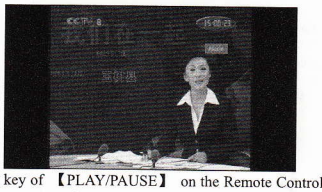
you can directly press the key of 【Yellow】 on the Remote Controller, set the recording time. Press 【OK】 to start recording after the

Recording, press the remote control 【Yellow】 key to stop recording

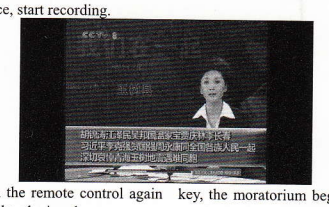


Enter the menu, "USB" - "PLAYBACK", USB devices can list a list of recorded programs. Can select the appropriate file for playback.

10.Time shift

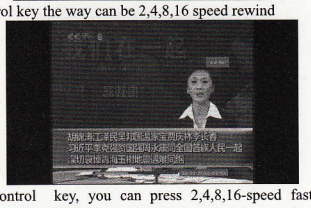


you can directly press the key of 【PLAY/PAUSE】 on the Remote Controller, the screen suspended. Such as inserting USB device, start recording.



【PLAY/PUASE】on the remote control again key, the moratorium began to broadcast from the bottom of the screen time to be playing there.

【►►】by remote control key the way can be 2,4,8,16 speed rewind



【► ►】by remote control key, you can press 2,4,8,16-speed fast-forward manner. Such as fast-forward to the current time, time-shift automatic withdrawal state.

11. Trouble Shooting

Before contacting your local service, please make sure following instructions. If the product does not work normally after completing the following trouble shooting, please contact your local product distributor or service center.

(1) No message is displayed on the front panel or product has no power
- Check the main power cable and check that it is plugged into a suitable power outlet.
- Check whether Power Switch is On.

(2) No picture
- Make sure that the product is in Operation Mode.
- Make sure that the AV Cable is firmly connected to the TV.
- Make sure that aerial line is correctly connected to the equipment.
- Check the brightness level of TV.
- Check the channel is on air.

(3) Poor picture & sound quality
- Install aerial where there is not obstacle ahead.
- Make sure to avoid putting mobile phone or microwave oven near around the equipment.

(4) No or poor sound
- Check the volume level of the TV and the remote control.
- Check the Mute status of the TV and product.
- Press the Audio button to change the Sound Track type.

(5) Remote control does not operate
- To manipulate the equipment with remote control, the remote control's emitting part should directly point towards the receiving part of receiver's remote control.
- Check the battery of Remote control.

12Technical Specification

TUNER
Frequency Range：VHF,UHF and L-band
Band：7/8MHz (Switchable)

Input impedance： 75 Ω

CHANNEL DECODING
Standard：DVB-T
Demodulation：COFDM
FEC：1/2, 2/3, 3/4, 4/5, 5/6, 7/8
Reed solomon：204, 188, t = 8

DEMULTIPLEXER
Standard：ISO/IEC 13818-1

VIDEO DECODING
Standard：H.264 MP@Level 3.0, MPEG2 MP@ML, MPEG-4
Aspect ratio：16:9 4:3
Video format：PAL/NTSC
Video resolution：720x576 Max

AUDIO DECODING
Decoding：MPEG-1 layer I、II & III，MPEG-2 layer I、II & III，MPEG2 AAC，MPEG-4 AAC LC/HE AC3
Output mode：Dual channel, Stereo

PROCESSOR
CPU ：Hi3560Q
Processor speed ：270MHz

Power Source
DC12~24 Volts +/-0.5 %
Negative Earth

Power Consumption
<5W (Power on)
Less than 300 mW (Power off)

Operating Condition
0C°- 70 C°

Board Dimensions
140 mm x 125 mm x 25 mm

Weight
380 g

NOTE
Designs and specifications are subject to change without prompt notice.
Weight and dimensions shown are approximate.